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State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF HAZARDOUS SITE MITIGATION
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ANTHONY J. FARRO
ACTING DIRECTOR

Cornell Dubilier
EPA
APR 13 1987

M E M O R A N D U M

TO: Richard Gervasio, Technical Coordinator
Bureau of Planning and Site Assessment

THROUGH: Nancy E. Spence, Chief NS
Dr. Barry Frasco, Environmental Scientist I BF
Quality Assurance Section

FROM: John G. Hunter, Research Scientist III
Quality Assurance Section

SUBJECT: Data Validation Review of Cornell Dubilier Data Package; Laboratory H2M, Inc., Sample Numbers CD910-SED1, SED2,-S1, -S2, -S3, -SW1, -SW2/2SW2Q, -TB and -FB.

The Quality Assurance Section, Bureau of Environmental Measurements and Quality Assurance, has reviewed the above referenced data package according to the NJDEP Tier I deliverable requirements. Samples were analyzed for volatile organics base/neutral extractable organics, acid extractable organics, pesticides, PCB's and inorganics. There are serious Quality Assurance problems with this package. Specifically:

Volatile Fractions

1. Holding Times - all samples were run after acceptable holding times, and hence all volatiles data is qualified.

2. The continuing calibration was run in two different standards. This is not standard laboratory practice and reflects poorly upon the H2M's capabilities and the data are qualified.

BNA's

1. Holding times - samples SED-1, SED-2, S-1, S-2 and S-3 were analyzed 5 days over the holding time and hence are qualified.

2. Method Blank - samples SW-1, SW2/SW2Q, the Trip Blank and the Field Blank were all extracted on different days than the cited method blank and hence are rejected.

3. Sample S-3 had unacceptable surrogate recoveries, was not reextracted and hence is rejected.

PCB-Pesticides

1. Confirmation analyses for all pesticides and PCB's are rejected, hence all identifications are considered tentative.

All other results are acceptable.

If you have any questions please contact this office at (3)0752.

HS:cp
Attachment
c John M. Mateo

ANALYTE SUMMARY

SITE: Cornell Dubilier **

SAMPLE	ANALYTE	METHOD BLANK CONC. (ug/l)	LAB. REPORTED CONC. (ug/kg)	QAS REPORTED CONC. (ug/kg)	QAS DECISION
SED-1	methylene chloride	-	6	6J	negate 5.
	1,1 dichloroethane	-	46	46J	confirm
	1,1,1-trichloroethane	2	190	190BJ	confirm 3.
	1,2,4-tirchloro benzene	-	1600J	1600J	confirm
	butylbenzyl phthalate	-	1700J	1700J	confirm
	bis(2-ethylhexyl) phthalate	-	26200	26200J	confirm
	delta-BHC	0.05	100	100B	tent. 6.
	aldrin	-	990	990	tent. 6.
	Arochlor 1254	-	25000	25000	tent. 6.
SED-2	methylene chloride	-	20	20J	negate 5.
	cis/trans -1,2 dichloroethene	-	3J	3J	confirm
	1,1,1 trichloroethane	2	32	32BJ	confirm 3.
	1,2,4 trichloro benzene	-	3100J	3100J	confirm
	bis(2-ethylhexyl) phthalate	-	18700	18700J	confirm
	alpha BHC	-	240	240	tent. 6.
	beta BHC	-	70	70	tent. 6.
	Arochlor 1254	-	140000	140000	tent. 6.
S-1	methylene chloride	-	110	110J	confirm
	1,1-dichloroethene	-	88	88J	confirm
	1,1,1-trichloroethane	2	110	110BJ	confirm 3.
	trichloroethene	-	35	35J	confirm
	benzene	-	2J	2J	confirm
	acenaphthene	-	300J	300J	confirm
	diethylphthalate	-	900000	900000J	confirm
	phenanthrene	-	2800J	2800J	confirm
	anthracene	-	700J	700J	confirm
	fluoranthene	-	4600J	4600J	confirm
	pyrene	-	3400J	3400J	confirm
	benzo(a)anthracene	-	1800J	1800J	confirm
	bis(2-ethylhexyl) phthalate	-	5100J	5100J	confirm
	chrysene	-	1800J	1800J	confirm
	beta-BHC	-	50	50	tent. 6.
	gammma-BHC	-	39	39	tent. 6.
	Arochlor 1254	-	680000	680000	tent. 6.
S-2	methylene chloride	-	5000	5000J	confirm
	1,1-dichloroethene	-	38	38J	confirm

	cis/trans-1,2-dichloroethene	-	100	100J	confirm
	chloroform	-	19	19J	confirm
	1,1,1-trichloroethane	2	74	74BJ	confirm
	benzene	-	3J	3J	confirm
	toluene	-	5J	5J	confirm
	naphthalene	-	3100J	3100J	confirm
	phenathrene	-	3000J	3000J	confirm
	beta-BHC	-	470	470	confirm
	delta-BHC	0.05	170B	170B	confirm
	Arochlor 1254	-	190000	190000	confirm
S-3	methylene chloride	-	4000	4000J	confirm
	1,1-dichloroethene	-	61	61J	confirm
	1,1,1-trichloro ethane	1	110	110BJ	confirm 3.
	trichloroethene	-	6J	6J	confirm
	toluene	-	3J	3J	confirm
	All BNAs rejected for this sample.				
	Arochlor 1254	-	410000	410000	tent. 6.
SW-1	1,1,1-trichloro ethane	2	4	4BJ	negate 1.
	BNAs rejected for this sample				
SW2/SW2Q	methylene chloride	-	15	15J	negate 5.
	1,1,1-trichloroethane	2	3	3BJ	negate 1.
	toluene	-	1J	1J	confirm
	BNAs rejected for this sample				
Trip Blank	methylene chloride	-	15	15	confirm
	BNAs rejected for this sample				
Field Blank	methylene chloride	-	10	10J	confirm
	1,1,1-trichloroethane	-	4J	4J	confirm
	BNAs rejected for this sample				

FOOTNOTES

1. The value reported is less than 3 times the value in the blank. It is the policy of the QAS to negate reported value due to probable foreign contamination unrelated to the actual sample. It is not possible to accurately quantitate below value reported in the sample, yet the end user is alerted that a reportable quantity was detected.

2. The value reported is between 3x and 5x the value in the method blank and may be due to possible foreign contaminationunrelated to the actual sample. The value reported is not negated and is considered estimated as indicated by the presence of the J qualifier. Resampling is recommended.

3. The value reported is greater than 5x the CRQL and is considered "real". The "B" qualifier alerts the end-user to the presence of this analyte in the method blank.

4. The nontargeted compound detected is less than 3x the value detected in the method blank. It is the policy of QAS to negate the reported value as the presence of the nontargeted compound is attributable to foreign contamination unrelated to the actual sample. It is not possible to accurately quantitate the nontargeted analytes found in the sample, yet the end user is alerted that a reportable quantity was detected.

5. The value found in the sample is less than 3x the concentration found in the field/trip blank, it is QAS policy to negate the value as it is attributable to foreign contamination unrelated to the sample.

6. The confirmatory analysis for PCBs and pesticides was rejected hence all indentifications must be considered tentative.

** Nontargeted compounds have not been evaluated due to time constraints.

EVALUATION OF

ANALYTICAL DATA REPORT PACKAGE

FOR

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF HAZARDOUS SITE MITIGATION

CN-028

TRENTON, NEW JERSEY 08625

Case Name	Field Sample #	Laboratory Sample #	Sample Location	Time and Date of Sample Collection
CORNELL DUBILIER	CD910-SED1			9/11/86
	-SED2			9/11/86
	-S1			9/11/86
	-S2			9/11/86
	-S3			9/11/86
	-SW1			9/11/86
	-SW2/SW20			9/11/86
	-TB			9/11/86
	-FB			9/11/86

Lab Name: H2M LABORATORIES

Immediate User of Data:

EVALUATION OF DELIVERABLES
Specific Comments on Analytical Deliverables Received

I. Format

Required as deliverables and must be provided:

1. Review page - Acceptable.

2. Title page - Acceptable.

3. Table of contents - Acceptable.

4. Sample Request Form - Acceptable.

5. Chain of Custody - Acceptable.

6. Laboratory chronicle - Acceptable.

7. Non-Conformance Summary - Does not cover significant non-conformance events.

8. Methodology Review - Acceptable.

9. Pagination - Acceptable.

II. Instrumentation Set-up

1. Volatile Fraction

A. GC/MS Tune

Tune check of 9/24/86 08:29 acceptable.
Tune check of 9/26/86 11:40 acceptable.

B. Calibration

1. Initial Standard Calibration - The initial calibration of 8/27/86 is acceptable.

2. Continuing Standard Calibration - H2M has combined more tha one standard run to generate a continuing calibration check This is not standard laboratory practice, reflects poorly upon H2Ms capabilities and leaves all analytical data for the volatile organics quantitatively suspect.

2. Base Neutral / Acid Extractable Fraction

A. GC/MS Tune

Tune of 8/21/86 16:21 is acceptable.

Tune of 8/22/86 09:17 is acceptable.
Tune of 10/6/86 13:47 is acceptable.
Tune of 9/22/86 08:27 is acceptable.

B. Calibration

1. Initial Standard Calibration - The initial calibration of 8/22/86 is fully acceptable.

2. Continuing Standard Calibration - The continuing calibration checks were acceptable with the exception of some compounds

Calibration check of 9/22/86 08:47

Compound	% Difference (25% maximum)
aniline	77
hexachlorocyclopentadiene	32
4-nitrophenol	32
3,3'-dichlorobenzidine	47

Calibration check of 10/6/86 17:09

Compound	% Difference (25% maximum)
1,2,4-trichlorbenzene	25
2,4-dinitrophenol	56
hexachlorobenzene	28
di-n-butylphthalate	53
terphenyl-d14	30
3,3'-dichlorobenzidine	25

3. Pesticide and PCB Fraction

A. Calibration

1. Initial Standard Calibration - The linearity checks for all runs were acceptable.

2. Continuing Standard Calibration - The DDT/Endrin breakdowns were found to be acceptable. However, when recalculated some samples did not yield the same percent breakdowns that were reported.

B. Retention Time Windows - Acceptable.

C. DBC Retention Time Shift - The confirmation analysis had many samples whose retention time shifts were unacceptable.

Sample	Run #	% Difference(2% maximum for a packed column
Standard mix B	2286	4
Standard mix B	2300	4
CD910-SW1	2301	2
CD910-SW2/SW20	2302	2
CD910-TB	2303	2

CD910-FB	2304	3
BLK399	2305	3
Individual mix B	2306	3
CD910-S3	2311	4
Standard mix B	2312	6
Individual mix A	2313	7

All these samples are rejected. As standards are included among the rejected runs and as there are a large number of standards involved the entire confirmatory analysis is rejected.

D. DDT Minumim Retention Time - All acceptable.

III. Chromatagraphic and Quality Control Concerns:

1. Volatile Fraction

A. Holding Times - All the volatile organics were held beyond holding times. Accordingly, the volatile organics are quantitatively qualified.

Sample	Date received	Date analysed	Days over	HT
SW1	9/12/86	9/24/86	5	7
FB	9/12/86	9/24/86	5	7
SW2/SW20	9/12/86	9/24/86	5	7
TB	9/12/86	9/24/86	5	7
SED1	9/12/86	9/26/86	4	10
SED2	9/12/86	9/26/86	4	10
S2	9/12/86	9/26/86	4	10
S1	9/12/86	9/26/86	4	10
S3	9/12/86	9/26/86	4	10

B. Surrogates

For the water samples all surrogate recoveries were acceptable. For the soil/sediment samples all surrogate recoveries were acceptable.

C. Matrix Spike and Matrix Spike Duplicate

SW2/SW20 chlorobenzene MSD/MS RPD 21%

D. Blanks
1. Method Blank

Method Blank of 9/26/86
1,1,1 trichloroethene 1ug/l J

Method blank of 9/24/86
1,1,1 trichlorethane 2ug/l J

2. Trip Blank
   Methylene Chloride 15 ug/l

3. Field Blank
   Methylene Chloride 10ug/l
   1,1,1 trichloroethane 1ug/l J

2. Base Neutral / Acid Extractable Fraction

A. Holding Times - Five samples were extracted after the seven day holding time. Specifically they are:

Sample	Date received	Date extracted	Days over
SED-1	9/12/86	9/24/86	5
SED-2	9/12/86	9/24/86	5
S-1	9/12/86	9/24/86	5
S-2	9/12/86	9/24/86	5
S-3	9/12/86	9/24/86	5

All samples that are over holding time are qualified.

B. Surrogates

For the water samples SW2 MS had a recovery for phenol D-5 of 4% the limits are 10-94%.

For the soil/sediment samples only one sample with unacceptable surrogate recoveries, S-3, as it had two unacceptable surrogate recoveries it is rejected.

S-3	Surrogate	% Recovery	Limits
	nitrobenzene	6	23-120
	2-fluorobiphenyl	19	30-115

C. Matrix Spike and Matrix Spike Duplicate

Water

Sample	Compound	MS%R	MSD%R	RPD	Criteria
	1,2,4 trichloro benzene	-	38	-	(39-98)
	1,2,4 trichloro benzene	-	-	29	28 max
	acenaphthene	-	38	-	(46-118)
	N-nitroso-di-n propylamine	-	36	27	(41-116)

D. Blanks
1. Method Blank - Many samples were extracted without being

associated with a method blank.

Date extracted	Sample
9/24/86	SED-1
9/24/86	SED-2
9/24/86	S-1
9/24/86	S-2
9/24/86	S-3
9/15/86	SW-1
9/16/86-9/17/86	SW2/SW20
9/16/86-9/17/86	TB
9/16/86-9/17/86	FB
9/24/86	METHOD BLANK

All compounds not associated with a method blank are rejected.

No analytes were found in the method blank results.

2. Trip Blank - One unknown was identified:

Scan # 141, estimated concentation 11 ug/l

3. Field Blank

Compound	Concentration
bis(2-ethylhexyl)phthalate	16 ug/l
unknown scan # 143	10 J

3. Pesticide and PCB Fraction

A. Holding Times - Acceptable.

B. Surrogates

Sample	% Recovery
SED-1	811
SED-2	857
S-1	570
S-2	303
S-4	404

C. Matrix Spike and Matrix Spike Duplicate

Sample	Analyte	%Recovery	RPD	Limits
SW2/SW20MS	Lindane	144	-	56-123
SW2/SW20MSD	Lindane	155	-	56-123

SW2/SW20	Aldrin	-	44	22
SW2/SW20MS	Dieldrin	24	-	52-126
SW2/SW20MSD	Dieldrin	28	-	52-126
SW2/SW20	Endrin	-	28	21

D. Blanks

1. Method Blank

Date	Compound	Concentration
10/6/86	delta BHC	0.05 ug/l
	unknown	0.81 ug/l
10/7/86	unknown	0.56 ug/l

2. Trip Blank - Not addressed in package.

3. Field Blank - Not addressed in package.

IV. Dioxin (2,3,7,8 TCDD)

Soil and waste matrix deliverables shall include September 1983 Regio VII protocols as modified by NJDEP July 1984. Water and wastewate matrix deliverables shall include Method 613, July 1982, EMS Cincinnati protocols.

EVALUATON

Not Applicable.

V. Metals and Limited Chemistry

A defined deliverables package is currently in development, howeve areas of detection limits and quality control are to be submitted a per the appropriate EPA publication.

EVALUATION

Review not perfvormed due to time constraints.

Final Evaluation with date and signature of BEMOA auditor.

_____ acceptable

_____ acceptable, with cautions noted above

_____ missing documentation requested and not received on timely basis, data rejection until received

_____ noncompliance to criteria achievement, quality assurance rejection

_____ _____
signature date

Review- Division of Hazardous Site Management disposition of al rejected data

Comments/Remedies:

_____ _____
Quality Assurance Officer Date
or DHSM designee

cc: Project Manager and BEMOA on Data Rejection Review.